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ABSTRACT

Section 14 of Act No. 307, Public Acts of 1969 of the State of Michigan directed the Department of Education to plan and develop a state program to assess educational progress. The purposes and procedures to be followed in this program during the 1969-70 school year, are outlined in this report. The program will consist of two complementary efforts. The first is an evaluation of school system performance in basic skill achievements, at the fourth and seventh year levels of schooling, by use of test batteries administered to students. This effort will constitute the initial phase of a continuing, comprehensive evaluation program of school system performance. The second area of assessment will involve the development of additional educational performance goals and their evaluation: (1) the definition of educational goals; (2) the development of instruments to measure within the goal areas; (3) information on the level and distribution of Michigan education in terms of additional goal areas will be included. The criteria of procedures to be used in this program and their importance in future educational research are discussed. The information on the needs and problems of a given school system provided by the evaluation program should facilitate planning and directing innovations. See TM 000 346-49 abd TM 000 324. (AE)

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PURPOSES AND PROCEDURES OF THE MICHIGAN ASSESSMENT OF EDUCATION

Assessment Report Number One

MICHIGAN DEPARTMENT OF EDUCATION

August, 1969

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PURPOSES AND PROCEDURES OF THE MICHIGAN ASSESSMENT OF EDUCATION

Assessment Report Number One

Prepared in the Bureau of Research

Michigan Department of Education

September, 1969

FOREWORD

To carry out the purposes of Section 14 of Act No. 307, Public Acts of 1969, the Department of Education currently is undertaking (1) the planning and development of a state program for a periodic and comprehensive assessment of educational progress, and (2) the immediate assessment of basic skills at two grade levels during the 1969-70 school year.

The purpose of this report is to provide local school district personnel, and other interested readers, with a general outline of the assessment activities which will take place during the 1969-70 school year. It is anticipated that this document will be the first of a series of reports designed to provide legislators, educators, school board members, and citizens in general with pertinent information regarding the Michigan state-wide assessment program.

Let me emphasize that the full implementation of a meaningful assessment program will not be achieved in the period of one year. Nor will it be achieved without the cooperation and involvement of professional educators and lay citizens. The task at hand is a complex one and will necessitate systematic planning and development over a period of many months. The activities which will be undertaken during the 1969-70 school year represent only a beginning step in a long-range program designed to provide better and more comprehensive information concerning the level, distribution, and progress of education in the schools of our state.

Ira Polley

Ira Polley
State Superintendent of
Public Instruction

PURPOSES AND PROCEDURES OF THE MICHIGAN ASSESSMENT OF EDUCATION

Introduction

Background

In recent years, it has become increasingly evident to both professional educators and the general citizenry that reliable information concerning progress in education is scarce. As the costs of education climb and property taxes become more burdensome, the demand for performance indicators in the field of education increases. Under present conditions, schoolmen are hard pressed to respond to their communities' questions regarding the effects that added dollars will have upon the educational performance of their children.

Evidence of instructional outcomes for Michigan's schools--at least on a state-wide basis--is virtually nonexistent as a guide upon which to base future action. The evaluation of this state's performance in meeting the needs of its pupils, in providing equal educational opportunities for all of its citizens, and in upgrading the quality of its educational effort--remains at best a guesswork procedure. Currently we do not know how adequately, how efficiently, or how equitably we are educating our children.

On April 23, 1969 the State Board of Education responded to this need for substantive information. It directed the Superintendent of Public Instruction to prepare and submit appropriate legislation for the periodic assessment of educational progress in the public elementary and secondary schools in Michigan. The State Legislature responded by enacting Section 14 of Act No. 307, Public Acts of 1969, which directs the Department of Education to (1) begin to plan and develop a state program for the purpose of conducting a periodic and comprehensive assessment of educational progress, and (2) provide for an annual test or tests of pupil achievements in the basic skills.[1]

The principal goal of the assessment effort will be to provide reliable and meaningful information on the outcomes of public elementary and secondary education in Michigan. It is expected that with increased information: (1) the general public will increase its understanding of the attainments, the needs, and the problems of the schools; (2) the State Legislature will be better able to enact legislation appropriate to the educational needs of the state; (3) the efforts of the Department of Education will be facilitated in identifying needs and priorities for purposes of planning and directing the improvement of education in the state; and (4) local school districts will be assisted in their efforts to identify needs and priorities as they plan and administer local school programs.

A second goal of the assessment effort, and one closely related to the one above, will be to improve the basis for educational decision-making in the State of Michigan over time. Ralph Tyler writes:

> In making wise decisions, dependable information about the progress of education is essential; without it we scatter our efforts too widely and

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[1] The complete text of Section 14 is presented in Appendix A.

> fail to achieve our goals. Although we recognize the need, we have not yet met it. We do not now have the comprehensive and dependable data required. We have reports on numbers of schools, buildings, teachers, and pupils; we have data on the monies expended; but we lack sound and adequate information on educational results. Because dependable data are not available, the public relies on personal view, distorted reports, and journalistic impressions in forming its opinion, and the schools are both frequently attacked and frequently defended on the basis of inadequate evidence. Only a careful, consistent effort to obtain valid data about the progress of American education will correct this situation.[2]

Assessment Activities for 1969-70

As presently designed, the assessment will involve two complementary and concurrent efforts: (1) an immediate--and then periodic--assessment of school system performance in terms of basic skill achievements of children (reading comprehension, mathematics, English expression, and vocabulary), and (2) an assessment of school system performance in terms of other common educational goal areas. Additionally, since public education is generally seen as being comprised of important and interdependent components in addition to performance levels of children, variables descriptive of pupil backgrounds and school and school system resource levels--here termed the correlates of educational performance[3]--will also be included in both proposed assessment efforts.

One assumption and two criteria have guided the formulation of plans for the efforts of the proposed assessment. The assumption is that the most important education-related problem facing the State--and indeed the nation--is the inequitable distribution of school district performance levels and their correlates. The criteria are: (1) simplicity in the formulation of assessment purposes and results, and (2) implicit employment of a theory of inter-relationships between school system performance levels and the other describable system characteristics outlined below.[4]

The assessment effort has four basic purposes: (1) a description of the levels of educational performance and its correlates in (a) Michigan and in

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2 Ralph W. Tyler, "Assessing the Progress of Education," paper presented at the symposium on Measurement of Quality in Education at the 132nd annual meeting of the American Association for the Advancement of Science, Berkeley, California, December 29, 1965.

3 The term "correlates" is used to describe certain factors that bear a strong relation to educational performance. For example, it is known that socio-economic factors bear a strong relation to academic achievement and thus properly are "correlates" of achievement. Additional "correlates" include school and school system financial resources, school and school system human resources, etc.

4 This theory is the result of a review of the extensive literature on school system performance and determinants undertaken within the Bureau of Research, Michigan Department of Education. See: Research into the Correlates of School Performance: A Review and Summary of Literature (Lansing, Michigan: Department of Education, Research Monograph No. 1, forthcoming).

(b) Michigan's geographic and community types; and (2) a description of how the correlates of education are distributed in terms of educational performance levels in (a) Michigan and in (b) Michigan's geographic areas and community types. For example, we may ask the question whether districts that score high on educational performance levels also score high, say, on student socio-economic background. In general, information from these efforts will be addressed to those who, at the state level, make decisions regarding education and allocation of its resources. Additionally, two further purposes of the assessment effort will be addressed to gathering data for decision makers at both the State and local levels: (3) a description of the levels of educational performance and its correlates within the state's individual school districts, and (4) a description of how the correlates of education are distributed in terms of educational performance levels within the State's school districts--particularly the largest districts.

The remainder of this paper outlines in some detail the assessment efforts and the procedures to be followed.

An Assessment of Achievements in Basic Skills

As stated above, the legislation regarding the state assessment consists of two parts. The second part of the legislation directs the Department of Education to undertake an annual assessment of basic skills. Unlike certain outcome areas such as attitudes, aspirations, and interests, implementation of a program to assess basic skills does not require several months or years of planning. For this reason, it will be possible for the Department of Education to implement a state-wide assessment of basic skills beginning in 1969-70--despite the fact that assessment of other educational outcome areas requires additional planning and development before inclusion into a state program.

Specifically, it will be the purpose of the Basic Skills component of the assessment to provide answers to the following questions:

1-a. What is the present level of educational achievement and its correlates in Michigan? The "components" of educational achievement--reading, writing skills, vocabulary, and mathematics--have already been mentioned. The correlates of educational achievement are of four categories: (1) student socio-economic background; (2) student feelings of self-worth and aspiration; (3) school and school system financial resources; and (4) school and school system human resources.

It would be possible to explore the first question through perusal of a table similar to Table I below which indicates the mean and standard deviation of variables representing the components and correlates of educational achievement in Michigan's school districts. Such a table will show the basic skills achievement levels for the state as a whole AND student socio-economic background, student feelings of self worth and aspiration, school system financial resources, and school system human resources for the state as a whole.

1-b. What is the present level of educational achievement and its correlates within Michigan's geographic regions and community types? Part (b) of question 1 differs from part (a) only in that the information gathered will now be presented separately for the various geographic and community types in the state. For assessment purposes, we may divide Michigan into three regions:

TABLE I

THE STATUS OF EDUCATIONAL ACHIEVEMENT AND ITS COMPONENTS IN MICHIGAN

	Achievement					Socio-economic Status				Self-worth, Aspiration				School Financial Resources				School Human Resources			
	Total	Reading	Writing	Vocabulary	Math	Var. 1	Var. 2	Var. 3	Var. 4	Var. 1	Var. 2	Var. 3	Var. 4	Var. 1	Var. 2	Var. 3	Var. 4	Var. 1	Var. 2	Var. 3	Var. 4
Mean																					
Standard Deviation																					

(1) Northern Michigan (the Upper Peninsula and the northern part of the Lower Peninsula); (2) the Detroit area (Wayne, Oakland, and Macomb counties); and (3) Southern Michigan, excluding the Detroit area. We may also classify Michigan's school districts into five demographic types: (1) great cities (the eleven largest central school districts); (2) other cities; (3) suburbs; (4) small towns; and (5) rural areas.

Information relative to this question would be provided by examination of tables similar to Table I for each of Michigan's geographic regions, community types, and combinations of geographic regions and community types.

This will facilitate comparisons between geographic areas and between community types. For example, it will be possible to compare suburbs with small towns, or to compare Northern Michigan with Southern Michigan.

2-a. Do districts (or schools) that score high (or low or average) on achievement also score high (or low or average) on the correlates of educational performance in Michigan? The prime purpose of questions 1-a and 1-b above is to explore educational levels in Michigan; it is the purpose of this and the following question to describe how the correlates of education are distributed in terms of educational performance levels in Michigan. The fundamental difference between the two sets of questions is that the first seeks to determine the level of each education-reflected variable independently; the second seeks to determine the distribution of variables in terms of district scores on achievement. For example, one might consider whether those schools scoring high on total achievement also score high on school financial resources?

There are a number of ways in which this question might be answered. A tentative methodology would proceed as follows: (1) the average achievement scores of districts in the top, middle, and bottom thirds of a distribution of Michigan districts would be computed; (2) the average score on achievement sub-tests and variables representing student background and school resources would be computed for those districts falling into each third by achievement and (3) the score would be presented for interpretation in a table similar to Table II.

2-b. Do districts (or schools) that score high (or low or average) on achievement also score high (or low or average) on the correlates of educational performance within Michigan's geographic regions and community types? As was discussed above, Michigan's school districts may be classified according to geographical region and community type. The question of educational distribution within each of the State's regions, community types, and combinations of region and community type could be answered by means of a table for each similar in format to Table II.

3. What are the scores of each of Michigan's districts on achievement and its correlates, and how do these scores compare with State, regional, and community type averages? This question will be answered by constructing a standard score scale of school district means for each variable employed in the assessment and plotting the district's score onto it. This methodology will allow the district's staff and parents to understand its relative status--not only in basic skill achievement, but in other areas descriptive of education as well.

School people familiar with assessment procedures are often concerned with problems that might result from public mis-interpretation of performance results.

TABLE II

THE COMPARISON OF SCHOOL DISTRICTS SCORING IN THE TOP, MIDDLE, AND BOTTOM THIRDS ON ACHIEVEMENT

	Achievement					Socio-economic Status				Self-worth, Aspiration				School Financial Resources				School Human Resources			
	Total	Reading	Writing	Vocabulary	Math	Var. 1	Var. 2	Var. 3	Var. 4	Var. 1	Var. 2	Var. 3	Var. 4	Var. 1	Var. 2	Var. 3	Var. 4	Var. 1	Var. 2	Var. 3	Var. 4
Top 1/3																					
Middle 1/3																					
Bottom 1/3																					

Three precautions will be made with data from the proposed Michigan assessment that should allay these fears. First, school districts will not be individually compared. That is, information regarding an individual district will only be released to that district. No "ranking" of districts on variables will be prepared by the Bureau of Research. Second, as indicated throughout this paper, performance data will not be presented in isolation. It will always be presented together with data regarding pupil backgrounds and school resources--hence, districts that fall relatively low on the performance distribution of districts will likely also be those educating large numbers of "disadvantaged" children and may also have low resource levels as well. The third precaution is related to the first. That is, any individual districts with unusual assessment "profiles" will be examined individually for measurement errors or other atypical situations. If, for example, a district scored high on student background and school resource levels and low on achievement, the Department of Education would check it closely for measurement errors or special features that could account for this type of incongruity.

4. What is the present level and distribution of educational achievement and its correlates within the State's large school districts? It is highly likely that within-district scores on the achievement and other variables discussed here may vary greatly. This is particularly likely in Detroit, Grand Rapids, Flint, Lansing, and other large cities that serve widely divergent student populations. Hence, it is suggested that these cities will be divided and compared on a regional or even a school building basis with tables and precautions similar to the foregoing.

5. What changes over time may be noted in the answers to the above questions? Of course, this question cannot be answered in the assessment's first year. In successive years, however, it will become a most important one as it will measure: (1) the movement toward or away from equality of educational opportunity--at least insofar as that elusive concept may be measured by the variables here discussed--and (2) the presumed effects of policy changes at both the State and local levels.

Assessment of Other Goal Areas

The preceding paragraphs rest firmly on the assumption that schools exist--in part--to develop reading, writing skills, vocabulary, and mathematics in children. Schools have additional purposes or goals, however, and it will be the purpose of this concurrent phase of the assessment to explore, define, measure, and relate them. Specifically, this phase of the assessment effort will involve the three inter-dependent steps outlined below.

1. Defining the goals of Michigan education. This part of the program will involve periodic conferences and meetings of civic leaders, lay people, professional educators, and representatives of school districts. The purpose of these meetings will be to review, define, and clarify the State's education goals.[5]

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[5] A great deal of work has been done in defining the goals of education. Thus, Ammons has written that "Educational objectives have for centuries occupied the attention of educational specialists, of representatives of other areas of study, and of laymen. That they are matters of basic concern is attested to

2. Developing measures representative of educational goal areas. The assessment program will require that the goals of education be translated into measures of pupil performance which can be employed to measure school and school system performance levels. To insure that the measures are consonant with the goals of education as originally defined their development will be reviewed with the resource groups who assisted in the definition step.

3. Answering questions regarding the level and distribution of Michigan education in terms of additional goal areas. It will be the purpose of this part of the assessment to answer the question posed above in connection with the basic skills phase in terms of additional goal areas. Thus, as additional goal areas are defined and measured, it will be possible to answer the kinds of questions posed above in terms of them. Say, for example, that within two years agreement is reached that schools should help each child acquire understanding and appreciation of persons belonging to social, cultural, and ethnic groups different from his own and measures are developed that would assess this within school systems. It will then be possible to answer the questions listed above in terms of this goal area as well as the goal area of basic skills assessment. As other goal areas are defined and operationalized they too can be "fed into" the annual assessment effort.

Procedures for Basic Skills Assessment

Planning is well underway for basic skills assessment. Educational Testing Service of Princeton, New Jersey, will assist the Department of Education in devising, administering, and analyzing the assessment battery and data gathering instruments. Together with the Department of Education they are preparing a battery to assess reading comprehension, mathematics, English expression, and vocabulary. It is tentatively planned that the instrument will be administered to all students in Michigan who are in their fourth year (age 9) of school or in their seventh year (age 12) of school. The schedule calls for the battery to be administered in January of 1970 and will require no more than 120 minutes of a student's time. After the battery is administered, it will take about six months to prepare and analyze the data. More complete information regarding administration of the assessment battery will be available in a subsequent assessment report available soon.

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5 (con't) by the amount written about them; both educational and non-educational literature is replete with formal and informal statements of objectives of education and with descriptions of methods for determining what objectives should be." See: Margaret Ammons, "Objectives and Outcomes," Encyclopedia of Education Research, Robert L. Ebel, editor (Toronto: The Macmillan Co., 1969), p. 908.

Pennsylvania is one state that has begun work along these lines. It has identified ten educational goal areas which it is attempting to assess. Thus, Pennsylvania states that quality education should: (1) help every child acquire the greatest possible understanding of himself and an appreciation of his worthiness as a member of society, (2) help every child acquire understanding and appreciation of persons belonging to social, cultural, and ethnic groups different from his own, (3) help every child acquire to the fullest extent possible for him mastery of the basic skills in the use of words and numbers, (4) help every child acquire a positive attitude toward school and toward the

Additional Research

The assessment outlined above will generate an impressive amount of data on Michigan's system of public elementary and secondary education. This data will be useful to educators interested in exploring a number of educational issues. Of particular importance is the question, "What causes--or is related to--educational performance?" This question, as implied in footnote four, has been extensively explored; however, we are still far from a definitive answer. Hence, the Department of Education's Bureau of Research will be interested in exploring the issue further employing multivariate survey analyses which relate school system performance to other variables of the types discussed above. It will be possible, then to infer from these relationships the "causes" of variation between school systems on measures of educational performance.

Other researchers may wish to explore related problems with the assessment data. The data bank resulting from assessment will be opened, with proper safeguards, to qualified researchers, thereby contributing to our knowledge of other facets of the educational processes.

Summary

It has in recent years become increasingly evident to the Legislature, the State Board of Education, educators, school board members, and the general public that reliable information concerning educational level, distribution, and progress is scarce in Michigan. The State's school districts spend approximately one and a half billion dollars annually on elementary and secondary education; it is not unreasonable, hence, to spend an additional quarter million dollars--or approximately .000166 of the total--in assessing it.

This paper has briefly and tentatively outlined the purposes and procedures of such an assessment in Michigan. It suggested a two-phase effort: (1) an assessment of education in terms of basic skills achievement and (2) the development of additional educational performance goals and their assessment. Completion of these efforts will not automatically alleviate the educational problems facing the State; it will, however, provide information to those concerned with those problems. Used creatively, that information can result in improved education for Michigan children.

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[5](con't) learning process, (5) help every child acquire the habits and attitudes associated with responsible citizenship, (6) help every child acquire good health habits and an understanding of the conditions necessary for the maintenance of physical and emotional well-being, (7) give every child opportunity and encouragement to be creative in one or more fields of endeavor, (8) help every child understand the opportunities open to him for preparing himself for a productive life and enable him to take full advantage of these opportunities, (9) help every child to understand and appreciate as much as he can of human achievement in the natural sciences, the social sciences, the humanities, and the arts, (10) help every child to prepare for a world of rapid change and unforeseeable demands in which continuing education throughout his adult life should be a normal expectation. See, for example: Paul B. Campbell et al., Phase One Findings: Educational Quality Assessment (Harrisburg, Pennsylvania, Pennsylvania Department of Public Instruction, December, 1968).

APPENDIX A

Section 14 of Act No. 307
Public Acts of 1969

Section 14 of Act No. 307, Public Acts of 1969, enacted August 12, 1969, reads as follows:

Sec. 14. The department of education shall begin to plan and develop a state program for the purpose of conducting a periodic and comprehensive assessment of educational progress. Such plan shall include procedures for the objective measurement of instructional outcomes among the elementary and secondary school students pursuing the various subjects and courses that commonly comprise school curricula. Such plan shall be made statewide in application among the elementary and secondary schools. Such plan shall include procedures for the presentation of periodic evaluation reports of educational progress for the state.

Also the department of education shall provide for an annual test or tests of pupil achievements in the basic skills. Such test or tests shall provide for the objective measurement of pupil learning outcomes in reading, mathematics, language arts and/or other general subject areas. Such test or tests shall be undertaken at one or more grade levels among elementary and/or secondary school pupils and shall be made statewide in application insofar as is necessary and possible.